

Impacts Case Study - Hawaii
(comparison of effect of benchmark and treatment)

Conservation Effects Worksheet

Cropland - Sugarcane
(land use and crop)

Resource Setting: Kauai, Hawaii

Soils - Kapaa silty clay

Rainfall 74 inches

Elevation - 360 feet

Unique situation - field located on ridge top next to stream and Kapaia reservoir is located above the field

Conservation Treatment:

These following conservation practices were added to the benchmark system:

- Conservation Cropping Sequence -Scheduled Harvesting (328)
- Conservation tillage/no till (329)
- Cross slope farming
- Irrigation System - Drip (441)

Resource Problems Before Treatment:

Erosion is a problem; this is a highly erodible field. The field is close to a reservoir and stream. May have nutrient and herbicide problems.

IMPACTS	DECISIONMAKERS EVALUATION	
	(+ / -)	Comment
<p>Conservation Cropping Sequence Scheduled Harvesting (328)</p> <p>Sheet and rill erosion reduced because stand of sugarcane will be established before high intensity rains occur.</p> <ul style="list-style-type: none"> - Before soil loss 64 tons/acre/year - After soil loss 0.8 tons/acre/year <p>Conservation Tillage (329) (minimum and no till) plus cross slope farming</p> <ul style="list-style-type: none"> - After soil loss 0.7 tons/acre/year - Reduction of sheet and rill erosion <p>Irrigation Drip (441)</p>	+	Stop sediment from entering stream.
	-	Reduction of 63 tons/acre/year
	-	May take several cropping cycles to get into the scheduled harvesting window of time.
	-	If they have many fields with the scheduled harvesting treatment, they may not be able to do them all.
	-	Lower crop yield the first year because of the change in harvesting time, harvest crop early to get into the window.
	+	Reduced sediment runoff
	+	Reduced consumption of fuel to use tractors.
	+	Improved water infiltration and retention.
	-	On steep slopes tractor may slid or s;or roll over attempting to go cross slope.
	-	Increased cost to modify equipment
	-	Expensive to install an irrigation sysem
	+	Increases yields.
	+	Quicker cover of crop.
	+	Uniform crop growth; better crop growth.
	-	Water depletion from reservoirs.
	-	Tail water may contain chemicals used in the field.
Comments:		